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USSR
ELECTRONIC AND PRECISION EQUIPMENT

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USSR ELECTRONIC AND PRECISION EQUIPMENT

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I. ITEMS OF SPECIAL INTEREST

A. Plants

The following were among a large number of plants which made proposals for new type classifications or for expansion or revision of old type classifications of gauges and measures:

"Krasnyy Gidropress" Plant [Taganrog Plant imeni Molotov?]

Tambov Avtotraktorodetal' Plant (zavod "Avtotraktorodetal'," Tambov)

Revda OMV Plant (zavod OMV, Revda) [expansion of name not known]

Revda OTsM Plant (zavod OTsM, Revda) [Plant for the Processing of Nonferrous Metals?]

Yaroslavl' Cable Plant (Yaroslavskiy kabel'nyy zavod)

Poltava Turbine Machinery Plant (Poltavskiy turbomekhanicheskiy zavod)

Stalingrad Medical Equipment Plant (Stalingradskiy zavod meditsinskogo oborudovniya)

Minsk Spare Parts Plant (Minskiy zavod zapasnykh chastey)

(Moscow, Izmeritel'naya Tekhnika, Apr 59, pp 12-16)

[Comment: Reference to the above plants has not previously been observed in available publications. A Revda Plant for the Processing of Nonferrous Metals is mentioned in Bolshaya Sovetskaya Entsiklopediya, Vol 36, p 169.]

On the northern outskirts of the city of Ordzhonikidze, in an area where there had been nothing but wilderness, a building is going up. This is the building of a new enterprise, the "Gazoapparat" [Gas Apparatus] Plant. This plant has the latest equipment and a convenient conveyer. All processes are mechanized and automated. In the near future, it will produce at least 100,000 gas stoves, gas water heaters, and gas meters, which are needed for setting up gas systems in the North Caucasus. (Moscow, Trud, 30 Jan 59)

The Saratov Gas Apparatus Plant has started production of small gas-burning primus stoves consisting of a 4-liter metal gas-bottle with a mixer and burner and choice of three grilles. The bottle holds 1.5 kg of liquid gas, which is good for 25-27 hours of burning. These primus stoves will soon be available for purchase. (Moscow, Trud, 26 Feb 59)

[Comment: This may be a new plant.]

The Krasnyy Oktyabr' Physical Electrical Instruments Plant Zavod fizelektropriborov "Krasnyy Oktyabr'" is located in Odessa. (Moscow, Izobretatel' i Ratsionalizator, Apr 59, p 44)

B. Batteries

Storage batteries normally last about a year or for approximately 70,000-80,000 km. However, there are instances when these batteries with good care have been used in motor vehicles more than 2 years and for 120,000-135,000 km without repair. The following precautions should be heeded to extend the service life of storage batteries:

The driver should not overload the battery and should use the starter only when he is sure that the engine crankshaft can turn easily.

A decrease in the air temperature of up to 2.5 degrees lowers the battery's capacity by approximately 30 percent. Therefore, in the winter only a hard crank should be used to start the engine.

If there are slight indications of decreased battery capacity and the motor vehicle has not run 30,000-40,000 km, the plates should be removed from the cells. The cells should be cleaned, the plates checked, and defective plates replaced.

If proper precautionary measures are observed, the service life of storage batteries can be extended considerably. (Moscow, Put' i Putevoye Khozyaystvo, Apr 59, p 28)

C. Tungsten Filament Drawing Machine

A new six-wire machine (1) for drawing tungsten filament has been installed in the refractory metals shop of the Moscow Electric Bulb Plant. It is one sixth the size of existing machines and has electrical heating and precision measuring equipment.

The machine occupies one sixth the production space of similar machines, permits increased labor productivity, and improves the quality of very fine tungsten filament used in the manufacture of vacuum tubes. (Moscow, Nauka i Zhizn', Feb 59, p 68)

(1) Photo available in source, p 68

II. INSTITUTES

A. Scientific Research Institute for the Automation of Production Processes in the Chemical Industry and Nonferrous Metallurgy

NIIAvtomatika (Scientific Research Institute for the Automation of Production Processes in the Chemical Industry and Nonferrous Metallurgy) of Glavniiproyekt [Main Administration of Scientific Research and Planning Institutes] of Gosplan USSR needs specialists in the following fields for steady employment: theory of automatic regulation; theory of relay circuits; industrial electronics; computer techniques; telemechanics; and automatic instruments for analyzing the composition of gases and liquids. It also needs process engineers for organic and inorganic chemistry, and engineers with experience in working on scientific and technical information.

The institute also needs a chief of the Planning Division, who would be acquainted with planning at scientific research and planning institutes.

Applications should be sent to the management of NIIAvtomatika at proyezd Kirova 7, Kirovakan, Armenian SSR. -- Advertisement (Moscow, Vechernyaya Moskva, 19 Jan 59)

In 1956, the Kirovakan NIIAvtomatika, the Kirovakan "Avtomatika" Independent Design Bureau, and the Kirovakan "Avtomatika" Independent Design Bureau, and the Kirovakan "Avtomatika" Plant were founded simultaneously. The existence of these three organizations made it possible to study the needs of industry for instruments and automation equipment on a large scale. However, for a number of reasons, each organization began to develop independently. Now, they are almost completely severed from one another.

During the past 2 years or so, NIIAvtomatika has acquired sufficient know-how to provide orders not only for the design bureau and the plant, but also for a number of existing instrument making enterprises and for enterprises under construction in the Armenian SSR. The institute has already developed six instruments, which will be exhibited at the Exposition on the Achievements of the National Economy of the USSR in Moscow.

Although at first it had been planned that NIIAvtomatika was to work on the automation of processes in the chemical and the nonferrous metallurgical industry, it is evident now that such specialization is artificial. Besides work in the above fields, the institute is already working out the problems of automating processes in the mining and food industries. The achievements in one field can be transferred to another, since often the same equipment can serve for many different purposes.

By right, the institute's scope should be expanded so as to include automation in all branches of industry. It is also necessary to organize a large installation organization for introducing automation equipment in industry. Such an organization could be put under the NIIAvtomatika in Kirovakan on the basis of the existing small experimental adjustment division of the institute. -- O. Arutyunov, Deputy Director for Scientific Work and Chief Engineer of NIIAvtomatika, and N. Kolosov, Deputy Chief Engineer (Yerevan, Kommunist, 14 Feb 59)

B. Central Scientific Research Institute for Over-All Automation

TsNIIKA (Central Scientific Research Institute for Over-All Automation) is to be one of the main organizers and implementers of a large portion of the program for over-all automation of industry during the Seven-Year Plan.

TsNIIKA and workers of chemical plants, and planning, design, and installation organizations have the capacity to effect over-all automation in as short a time as possible.

In 1958, the institute did research at some plants for partial automation of the most complex sections and individual pieces of equipment in the manufacture of ammonia.

The institute's proposal for developing within the next 3 years the first completely automated ammonia synthesis process has been supported by the Stalinogorsk Chemical Combine and the Dneprodzerzhinsk Nitrogen Fertilizer Plant.

All ammonia synthesis processes will be regulated automatically with the use of dozens of high-precision pneumatic devices. Electronic computers will be used to control the process and to analyze its technical and economic data. Besides this, the process will be checked with industrial television units.

The introduction of a fully automated system at only one medium-capacity nitrogen fertilizer plant will bring about a saving of about 8 million rubles per year.

The institute has already begun working on the over-all automation of a boiler-turbine-generator unit at the Khar'kovskaya GRES [State Regional Electric Power Station]. The unit will also be controlled with an electronic computer.

At the beginning of 1960, it is intended to finish the installation of an experimental system for the over-all automation of unit-type electric power stations, and after testing, to organize the series production of equipment for such systems. The over-all automation of a unit with an output of 300,000-kw would make possible an annual saving of up to 6.5 million rubles. (Moscow, Vechernyaya Moskva, 19 Feb 59)

C. Branch of the All-Union Scientific Research Institute of the Electrical Industry at the Armelektro Plant

FNIIA (Branch of the All-Union Scientific Research Institute of the Electrical Industry at the Armelektro Plant) aids many plants in Yerevan, including the Elektrotochpribor Plant, the Compressor Plant, the Cable Plant, the Electric Bulb Plant, and the Electrical Engineering Plant.

This branch institute was organized in June 1956 at the Yerevan Armelektro Plant imeni Lenin. During its first year of existence, the institute mainly aided the Armelektro Plant in the development of new products and did research on the manufacture of medium-size electric machines.

In June 1957, when the reorganization of industry and construction took place, FNIIA was transferred to the Administration of Electrical Engineering Industry and Instrument Making of the Armenian Sovnarkhoz. Since then, its scope of activities has broadened considerably. It now helps other enterprises of the administration in working out problems of all-union importance.

Five divisions and sections, located at enterprises most closely concerned with their activities, have been created under the FNIIA. For example, the Small Electric Motor Section of the Electric Machine Division is located at the Yerevan Electrical Engineering Plant; the Division of Instruments and Industrial Electronics, at the Elektrotochpribor Plant; and the Division of Gas Turbine Installations, at the Yerevan Compressor Plant.

The headquarters of the institute, nevertheless, is at the Armelektro Plant, where one of the leading divisions, the Division of Electric Machines, is at work. Chief of this division is N. Movsesyan, Candidate of Technical Sciences.

In 1958, the institute developed a single series of synchronous generators with mechanical rectifiers and automatic voltage regulators, and submitted it to the Armelektro Plant for production. The plant is mass-producing five type-sizes of this series.

In 1958, K. Alikhanyan, chief of the Small Electric Motor Section, and others developed a motor for new automatic vending machines. This motor was put into series production at the Yerevan Electric Motor Plant [formerly the Yerevan Electrical Repair Plant].

The Armelektro Plant is now series-producing the DES diesel-generating units, which have new generators and control panels. The institute, in collaboration with the Yerevan Cable Plant, has developed, produced, and successfully tested an experimental consignment of installation wire without cotton yarn. It also collaborated with the Yerevan Compressor Plant, with substantial help from a Leningrad Plant, to design the new

DK-1 free-piston engine-driven compressor unit. The institute has proposed a new method for winding and baking transformer windings and has done much other work. The FNIIA does scientific and practical work in close liaison with industrial enterprises.

V. Alekseyevskiy, deputy director in charge of the Scientific Sector of the FNIIA, mentioned that in 1959 and subsequent years, this institute will develop new improved electric machines, apparatus, and instruments and new winding and installation wire and cable. It will also work on the automation of a number of industrial processes at the Armelektro Plant and on automatic units for controlling the production of transformers and for controlling the electrolysis process in the aluminum vats of the Yerevan Kanaz Plant. These are only a few of the projects in store for the FNIIA.

During the Seven-Year Plan, the FNIIA should be expanded significantly if it is to serve the rapidly developing electrical and instrument making industries of the Armenian SSR. A large amount of capital construction is forecast, along with the development of new laboratory and experimental production facilities. -- G. Tevosyan (Yerevan, Kommunist, 21 Feb 59)

D. All-Union Scientific Research Institute of Electrical Measuring Instruments

When Engr A. Nigiyan of the Mytishchi Electric Meter Plant decided to study the effects of mechanical wear in bearings of electric meters, he was advised by G. Drugov, plant chief engineer, to get in touch with the VNIIEP (All-Union Scientific Research Institute of Electrical Measuring Instruments) in Leningrad. However, instead of helping the plant, the institute sent a survey team to Mytishchi to gather statistics. Kochev, plant director, was very much annoyed because the plant's problem was neglected and the survey team was engaged in irrelevant matters. Furthermore, a survey team from the VNIITIPribor (All-Union Scientific Research Institute of Thermal Power Measuring Instruments) was already busy in the plant collecting the same statistics demanded of the plant management by VNIIEP. Instead of pooling their resources and cooperating, the two survey teams went through the plant duplicating each other's questions.

When the VNIIEP was asked what it intended to do about the plant's problem, it answered that the problem had been submitted too late and could not be worked on that year. It used the same excuse to turn down the plant's request the following year.

The VNIIEP is on the threshold of its tenth anniversary, and no doubt it will try to dig up all kinds of fine statistics to justify its existence. However, as far as the Mytishchi plant is concerned, it has not received a bit of help from the institute. It seems that the institute is not interested in having long-lasting meters produced. (Moscow, Promyshlenno-Ekonomicheskaya Gazeta, 25 Feb 59)

III. LOCAL PRODUCTION AND ORGANIZATION

A. RSFSR

1. Moscow City

In 1958, Moscow enterprises produced 9,360 generators up to 100 kw in power, a 55-percent increase over 1957; 187,000 electric motors up to 100 kw in power, a 23-percent increase over 1957; 152,000 television sets, a 21-percent increase over 1957; and 7,311,000 timepieces, an 11-percent increase over 1957. (Moscow, Moskovskaya Pravda, 25 Jan 59)

[Comment: Radios were not mentioned in this listing, although several known enterprises in Moscow do manufacture them.]

2. Moskovskaya Oblast

In 1958, enterprises of Moskovskaya Oblast produced 1,234,000 electric meters and 429,100 cameras, a 13-percent and a 2-percent increase, respectively, over 1957. (Moscow, Leninskoye Znamya, 29 Jan 59)

[Comment: The production of radios and television sets was omitted from the listing, although such commodities are produced in Moskovskaya Oblast at unidentified plants.]

3. Leningrad

In 1958, enterprises of Leningrad and Leningradskaya Oblast produced 26,000 power circuit breakers, power transformers with a total power of 213,000 kw, 7,215 units of welding equipment, 1,469 X-ray units, 5,548 km of armored cable, 7,022 km of marine cable, 1,425,000 timepieces of all types, 690,000 cameras, and 261,000 radio receivers and television sets. The total power of transformers produced in 1958 was 51 percent higher than in 1957. The 1958 production of most listed commodities represents a slight gain over 1957. (Leningradskaya Pravda, 30 Jan 59)

4. Yaroslavl'

During the Seven-Year Plan, enterprises of the Yaroslavskiy Sovnarkhoz will increase the annual production of Volga wrist watches to 1.5 million; will more than double the output of radio-phonographs and television sets; and will significantly increase the production of electrical appliances, record players, washing machine motors, and many other items that are still in short supply. (Moscow, Planovoye Khozyaystvo, Mar 59, p 82)

[Comment: The wrist watches are probably produced at the Uglich Timepiece Plant; the radios and television sets, at the Yaroslavl' Radio Plant.]

B. Ukrainian SSR

In 1958, enterprises of the Ukrainian SSR produced 2,400 large electric machines, 619,200 electric motors of all types, power transformers with a total capacity of 12.1 million kva, 269,800 cameras, 285,500 radios and radio-phonographs, and 14,700 television sets. The 1958 production of large electric machines, radios and radio-phonographs, and television sets was more than 20 percent higher than in 1957. The 1958 output of the other commodities listed above represented a slight increase over 1957. (Kiev, Rabochaya Gazeta, 29 Jan 59)

C. Transcaucasus Republics

1. Armenian SSR

Until 1948, when the Yerevan Elektrotochpribor Plant went into operation, there were no instrument making plants in the Armenian SSR. One of the plant's greatest achievements is the development of complex high-precision instruments for operation in extreme temperatures with high atmospheric humidity. Such instruments were made on order for China, India, Vietnam, and Indonesia.

In 1957 and 1958, several new plants were organized in Armenia, including some for the production of thermal control instruments, general instruments, automation equipment, and performing mechanisms. The Yerevan Instrument Making Plant has already organized the series production of pyrometric millivoltmeters and current-ratio meters; the other enterprises have produced their first industrial models of new instruments.

The Kirovakan "Avtomatika" Design Bureau and the Leninakan "Prompribor" Design Bureau have made significant contributions toward the development of instrument making.

The output of the instrument making industry of the Armenian SSR will be 8.7 times as high in 1965 as it was in 1958. During the Seven-Year Plan, new types of measuring apparatus will be produced, including panel, portable, and laboratory instruments, automatic recording and regulating instruments, marine panel instruments of high mechanical strength, and instruments that give stable readings in any kind of climate.

The Elektrotochpribor Plant alone will produce 39 new types of products during the Seven-Year Plan. Most of these will be highly sensitive electrical measuring instruments.

Existing plants will be expanded and reconstructed and new plants will be built. For the first time, the production of electrical metal-ceramic products and semiconductors by powder-metallurgy methods will be organized in Armenia.

Steps must be taken to combat the impending shortage of trained instrument-making specialists. A special faculty or division of precision machine building and instrument making should be organized at the Yerevan Polytechnic Institute. -- A. Davidov, Chief Engineer, Yerevan Elektrotochpribor Plant (Yerevan, Kommunist, 21 Feb 59)

In 1958, enterprises of the Armenian SSR produced 27,228 generators up to 100 kw in power; 190,925 electric motors up to 100 kw in power; power transformers with a total power of 2,710,000 kva, 16,434 mobile generating units, and 28,423 incandescent light bulbs. (Yerevan, Kommunist, 25 Jan 59)

2. Georgian SSR

There are 22 new enterprises of the electrical engineering and instrument making industries under development in the Georgian SSR. By 1965, the volume of production of these industries will amount to 1.5 billion rubles, or eight times the 1958 level. -- M. D. Chubinidze, Chairman, Presidium of the Supreme Soviet Georgian SSR (Tbilisi, Zarya Vostoka, 24 Feb 59)

3. Azerbaydzhan SSR

In 1958, enterprises of the Azerbaydzhan SSR produced 32,700 radio receivers and television sets, an increase of 16 percent over 1957. (Baku, Bakinskiy Rabochiy, 24 Jan 59)

D. Baltic Republics

1. Lithuanian SSR

In 1958, enterprises of the Lithuanian SSR produced 9,600 electric welding units, 544,000 electric motors up to one kw in power, 17.4 million rubles' worth of electrical installation equipment, and 1,774,000 electric meters. The 544,000 electric motors represented a 48-percent increase over the number produced in 1957, although the 1958 plan for this commodity was fulfilled only 95 percent. The 1,774,000 electric meters represented a 34-percent increase over the 1957 output. Other listed items represented slight gains over 1957. (Vil'nyus, Sovetskaya Litva, 18 Jan 59)

2. Latvian SSR

In 1958, enterprises of the Latvian SSR produced 2,300 sets of electrical equipment for train lighting purposes, 157 sets of electrical equipment for motorized car sections of electrified railroads, 7,000 sets of electrical equipment for lift trucks, automatic telephone exchanges with a total capacity of 140,000 numbers, and 500,000 radio receivers. The above figures denote a 36-percent increase over 1957 in the production of lift truck electrical equipment, and small gains in the other commodities. (Riga, Sovetskaya Latviya, 31 Jan 59)

3. Estonian SSR

The Tartu Instrument Making Plant is subordinate to the Administration of Machine Building, Estonian Sovnarkhoz. The Tallin Elektrometall Plant is subordinate to the Administration of the Construction Materials Industry of the sovnarkhoz.

In 1958, enterprises of the Estonian SSR produced 6.6 million rubles' worth of electrical installation equipment; 14.5 million rubles' worth of electric light fixtures; 112.7 million rubles' worth of instruments, automation equipment, and spare parts for same; 14,700 taximeters, 28,700 water meters; and 15,200 radio receivers.

In 1958, industrial enterprises of the republic mastered the production of low-noise 10-kw induction electric motors; low-noise 4-7-kw, three-phase electric motors; and instruments using radioactive isotopes. (Tallin, Sovetskaya Estoniya, 25 Jan 59)

[Comment: The absence of any figures on the 1958 production of electric motors and generators is noteworthy.]

IV. ELECTRONIC EQUIPMENT

A. Plant Information

The Riga VEF Plant and the Riga Radio Plant imeni Popov receive about 1,000 type-designations of various electrical parts from more than 100 enterprises in Voronezh, Saratov, Omsk, Petropavlovsk, Odessa, and other cities. (Riga, Sovetskaya Latviya, 18 Feb 59)

An evening faculty of the Leningrad Electrical Engineering Institute imeni V. I. Ul'yanov (Lenin), specializing in design and technology of radio equipment production, has been established at the Leningrad Plant imeni Kozitskiy. (Leningradskaya Pravda, 20 Feb 59)

The Rodina-59 radio-phonograph is made in the Voronezhskiy Sovnarkhoz.

The Tallin Punane RET Plant is the producer of the Estoniya-2 radio-phonograph. It will produce more than 11,000 radio-phonographs in 1959. Koshkin is chief engineer of the plant.

Preparations for the production of the Topaz projection-type television set, which has a 1.2-x-0.9-meter screen, are being made in the Moscow City Sovnarkhoz.

The Moscow Elektroschetchik Plant is producing indoor television antennas designed for 12-channel reception. (Moscow, Promyshlenno-Ekonomicheskaya Gazeta, 27 Feb 59)

B. Prices

The following prices have been listed in a prize list for the 1959 State Lottery of the Estonian SSR:

Prize	Price (rubles)
Znamya-58 television set	2,600
Turist portable radio	330

(Tallin, Sovetskaya Estoniya, 1 Feb 59)

The following items are included in a prize list for the 1959 State Lottery of the Ukrainian SSR:

Prize	Price (rubles)
Avrora or Daugava radio-phonograph	1,100
Rekord radio-phonograph	495
Khar'kov radio receiver	765
Tayga electric phonograph	350
Start television set	1,950

(Kiev, Pravda Ukrainy, 5 Feb 59)

According to a prize list for the 1959 State Lottery of the Azerbaydzhan SSR, the price of a KVN-Leningrad television set is 850 rubles. (Baku, Bakinskiy Rabochiy, 10 Feb 59)

Mail Order Store No 40 of Riga Manufactured Goods Trade Organization No 1 of the Ministry of Trade Latvian SSR will ship the following goods by mail order:

	Price (rubles)
VEF-Akkord radio-phonograph, Class 2	1,150
Daugava radio-phonograph, Class 2	1,100
Lyuks radio-phonograph, Class 1	2,300
Daugava radio receiver, Class 2	765
Turist radio receiver, Class 3	330
Festival' radio receiver, high class	2,400
REAR loud-speaker	50

Orders and money should be addressed to: Riga, ulitsa Shkyunyu, dom 16. Shipping costs are to be paid by the purchaser on receipt of the package.

Mail Order Store No 40 is a branch of Store No 25 of Riga Manufactured Goods Trade Organization No 1. -- Advertisement (Kishinev, Sovetskaya Moldaviya, 26 Feb 59)

The Almaz-102 and Almaz-103 television sets are 12-channel models with screens measuring 450 x 340 mm. These sets also receive FM ultrashort-wave broadcasts and have four dynamic loud-speakers apiece.

Either set sells for 4,000 rubles, equipped with accessories and spare parts as provided for in the technical specifications. (Moscow, Byulleten' Roznichnykh Tsen, No 10, Apr 59, p 20)

C. Radios

Experimental models of new modernized Muromets radio receivers have been assembled at the Murom Radio Plant. These radios can be switched on and off automatically by built-in clock mechanisms. They are also equipped with manual controls. (Moscow, Promyshlenno-Ekonomicheskaya Gazeta, 18 Jan 59)

The Moskvich radio receiver and the Kometa, Kama, and Ural radio-phonographs, all products of the Sarapul Plant imeni Ordzhonikidze, are widely known. The one millionth Ural-57 radio-phonograph recently left the plant's main conveyer.

The Shlyup emergency radio station and the Kometa receiver, both with the Sarapul plant trademark, won gold medals at the Brussels World's Fair.

The Sarapul plant will start to organize the production of radio-television-phonograph combination sets during 1959. (Moscow, Komsomol-skaya Pravda, 20 Feb 59)

The Estoniya-11 high-class 12-tube radio phonograph was developed by the Tallin Punane-RET Plant and won a silver medal at the Brussels World's Fair. It has an internal directional antenna and eight wave bands, including five short-wave spread bands and one ultrashort-wave band. It also has keyboard switching of wave bands and tone controls. (Moscow, Moskov-skaya Pravda, 27 Feb 59)

The new small Nedra-1 explorer's radio (2) was developed at the request of the Ministry of Geology and Mineral Resources Conservation USSR by a group of radio designers headed by engineers I. Narodnitskiy, Ye. Vyshkov, and V. Orlenkova. The first radio went into operation in January 1959.

This radio is intended for use by explorers and prospectors, and is much smaller than the earlier Urozhay-1 and Urozhay-2, which were used for this purpose. (Moscow, Sovetskaya Rossiya, 10 Feb 59)

(2) Photo showing the comparative size of a Nedra-1 radio and an Urozhay radio available in source, p 4, bottom, right

Although the type ZhR-4 radio for communication between the yardman and the yardmaster's office has certain design inadequacies, it has already become an integral part of railroad station practice. The ZhR-4 is operating satisfactorily at the Kupyansk-Sortirovochnyy Station for recording trains en route from a place from which information has not been received. (Moscow, Zheleznodorozhnyy Transport, Apr 59, p 77)

D. Television

The new small Zarya television set has been put into series production at a Leningrad plant. It has a 28-x-21-cm screen and uses 12 miniature tubes.

On 7 February 1959, stores of Moskul'ttorg /Moscow City Sales Office for Educational and Cultural Goods/ received their first consignment of Zarya television sets. They will be put on sale very soon. (Moscow, Vechernyaya Moskva, 7 Feb 59)

The Voronezh Elektrosignal Plant has mastered the production of the new Voronezh television set, which is an improvement over older types. (Moscow, Promyshlenno-Ekonomicheskaya Gazeta, 7 Feb 59)

The Sputnik transistor television set, which is small in size and designed for installation in passenger automobiles, is on display at the Polytechnic Museum in Moscow. (Moscow, Vechernyaya Moskva, 9 Feb 59)

Although television sets made in L'vov did not go on sale until comparatively recently, the demand for them is increasing constantly.

At present, the L'vov Television Plant is getting ready for the production of new modernized television sets. It has already built an experimental working model of a Trembita television set, which has a 43-cm screen and is designed for receiving 12 channels. The plant is also preparing for the production of L'vov-50 and L'vov-2 television sets.

These television sets will go on sale in 1959. (Moscow, Trud, 15 Feb 59)

The Moscow Television Equipment Plant has organized the mass production of Rubin-102, Rubin-202, and Almaz-102 television sets (3). The first series of Kristall-101 television receivers has been manufactured. Besides a television receiver, the Kristall-101 has a tape recorder, a radio receiver, and a phonograph. (Moscow, Moskovskaya Pravda, 20 Feb 59)

(3) Photo showing the final adjustment of a new television set available in source, p 3, center

E. Anti-Interference Research

A branch of the Scientific Research Institute of the Administration of the Electrical Industry of the Leningradskiy Sovnarkhoz has organized an exhibit of new equipment designed for the study and measurement of radio interference. On display are instruments designed and produced by the institute during 1958.

Visitors have evinced great interest in a radio interference analyzer which comprised part of a set of equipment for Soviet stations cooperating in the program of the International Geophysical Year, and in an automatic radio interference recording device.

Visitors at the exhibit included representatives of scientific research societies in Moscow, Leningrad, Gor'kiy, and Minsk. They noted the need for mass production of this equipment, and discussed the expediency of founding a special experimental plant for its production.

A special institute of radio interference should have been organized long ago in Leningrad, but the city soviet has procrastinated in the assignment of quarters for the institute. (Leningradskaya Pravda, 20 Feb 59)

F. Microphone

During 1958, a central design bureau developed a new unidirectional capacitor microphone of the cardioid type, in cooperation with the acoustical laboratory of IRPA [Institute of Radiobroadcasting and Acoustics].

(Source gives additional descriptive information on this new microphone.) (Moscow, Tekhnika Kino i Televideniya, Apr 59, p 65)

G. Telephone Equipment

According to A. A. Adeyev, director of the Leningrad Krasnaya Zarya Plant, the year-to-year increase in the production of telephone equipment is being considerably outdistanced by the yearly increase in the demand for this equipment. Adeyev points out the need for placing Leningrad scientific research institutes and enterprises engaged in the field of telephone communications under a single management. (Leningradskaya Pravda, 25 Feb 59)

V. COMPUTERS

The development of new digital computers for automation and research purposes is very important. Substantially simple, reliable, economical, and effective electronic computers must be developed. Such machines must be produced in large numbers and must be applicable for a multitude of purposes.

The universal electronic analog computers now in extensive use in the USSR are too complex and clumsy, and are designed mainly for use in large computing centers. In addition, much time has to be spent in programing and adjusting these universal machines. The further development of computer technology has led to the development of specialized machines.

One of the newest and most promising principles for making computers is that of digital integration. It is used as a basis for the development of highly simple and compact digital integrators. These machines are being used for more and more purposes each year because of their high speed, accuracy, and operating efficiency and because most scientific research problems can be boiled down to integration and the solution of differential equations.

Digital integrators can be used on a large scale not only for scientific and engineering calculations and for simulation, but also for automating various production processes. For example, in the over-all automation of shops, digital integrators can automatically control dozens, and even hundreds, of machine tools simultaneously and can also coordinate their operations. With the use of digital integrators, a machine can compute the proper shape of the product and can control its precision. Such a machine can be the size of an ordinary television set, if semiconductors, magnetic components, and printed circuits are used.

An integrating machine can automatically control and regulate the quality of production. The control of the thickness of paper, metal band, cable, textile yarn, and other products can be reduced to the computation and statistical analysis of a large number of measurements through the process of integration. This process is carried out by integrating machines.

The keeping count of the number of products made by various machine tools, the systematic loading of blanks on machine tools, the keeping count of parts on a conveyer, the sorting of products according to certain indexes, and other such operations are of great importance for the automation of industry.

An electronic digital integrating machine can also be used on a wide scale for automatic control and regulation of various processes, primarily in the chemical, petroleum, and metallurgical industries and in the field of power engineering. In such cases it is used as a control machine, and can effect continuous simultaneous control over many parameters of an industrial process. All of this work is done with the same electronic servoapparatus, which "scans" the entire cycle of automated operations in sequence at a high speed. This makes it possible to use a minimum amount of electronic equipment to control a maximum number of machine tools and units.

To expand the automation of production processes on as large a scale as possible during the next 7 years, new, more advanced types of automation equipment based on the utilization of digital computers must be developed as soon as possible. This means, above all, the development of modern digital integrating machines. Because they are simple, cheap, and effective, these machines will come into wide use as one of the main types of automation equipment.

So far, not enough attention is being given to these machines' development, despite the fact that their development and manufacture costs much less than the development of universal computers.

The development and series production of digital integrators should be organized in the near future. A really good design and experimental base must be founded for the production of industrial models of new digital integrators. Staffs of scientists and engineers working on the further development of high-speed digital integrators should be organized to work alongside staffs engaged in designing universal digital machines. It would also be a good idea to develop combination machines, which would considerably raise the speed and effectiveness of the calculations. -- Prof F. Mayorov, Doctor of Technical Sciences (Moscow, Pravda, 18 Jan 59)

The Scientific Research Institute of Computer Machine Building has developed a new electronic machine for the automatic registration of production indexes. It is the same general type of machine as the well-known Mars-300 computer.

The machine stores the minimum and maximum allowable deviations from the norm. When there is any change in any of the 200 indexes, a signal lamp goes on the panel and an audio signal is turned on. It takes this machine less than a minute to scan 200 points of the process. All data are printed automatically on a special blank. Normal numbers are printed in black; should something go wrong, the numbers are printed in red.

The new machine was developed under the leadership of P. P. Sypchuk, Candidate of Technical Sciences, and A. N. Ivanov, a laboratory chief. It has been installed in one of the shops of the Stalinogorsk Chemical Combine, where it has undergone successful testing. -- Engr Ye. Radzivilov (Moscow, Moskovskaya Pravda, 27 Jan 59)

The Institute of Automatics and Telemechanics of the Academy of Sciences USSR has developed new designs of very small computing machines which operate on compressed air alone. Such a computer adds, subtracts, multiplies, and divides. It can also square, derive square roots, and solve problems of higher mathematics.

The pneumatic computer is composed of a set of metallic plates, inside of which are membranes of rubberized linen. When the handle is turned, the air is distributed in a special way inside the plates and this provides for the various computing operations.

The new computers are easy to manufacture and very dependable. (Moscow, Nauka i Zhizn', Feb 59, p 73)

Designers at the Tbilisi Scientific Research Institute of Instrument Making and Automation Equipment have developed a new electronic computer for determining the optimum distribution patterns in power systems. The machine has been accepted by an interdepartmental commission of the Georgian Sovnarkhoz.

The computer passed its tests superbly. After some improvements are made on it, it will be submitted for industrial production. (Tbilisi, Zarya Vostoka, 8 Feb 59)

VI. INSTRUMENTS

A. Electrical Instruments

The Kishinev Electrical Measuring Equipment Plant has begun the production of 14-channel loop oscillographs. It will produce 1,000 oscillographs during 1959.

The experimental shop of the Planning and Design Bureau of the Administration of Light Industry, Kishinevskiy /should be Moldavian/ Sovnarkhoz has begun the production of miniature ultrasonic pulse oscillators, many of which are used already at enterprises of the knitting, fur, and silk industries.

At present, the shop is getting ready to produce higher-power oscillators, which would make it possible to eliminate certain manual operations in the leather-making industry. (Moscow, Promyshlenno-Ekonomicheskaya Gazeta, 27 Feb 59)

The Krasnodar Electrical Measuring Instrument Plant produces more than 100 types of products. (Moscow, Promyshlenno-Ekonomicheskaya Gazeta, 22 Feb 59)

The Krasnodar Electrical Measuring Instrument Plant has manufactured the N-370 recorder amperevoltmeter, which weighs 12 kg.

However, a smaller version of the same instrument has been developed by the plant. The small N-370 weighs only 7 kg and the size has been reduced by almost half. It was made on the basis of parts and units already in mass production at the plant. (Krasnodar, Komsomolets Kubani, 18 Apr 59)

B. Geophysical Apparatus

D. Bespalov, an associate of the Main Geophysical Observatory imeni A. I. Voyenkova, in collaboration with workers of the Leningrad Gidrometpribor Plant, has developed a special remote unit which can measure the temperature at ten different depths of the soil simultaneously from an office. The unit includes a panel with measuring instruments connected by cable to electrical resistance thermometers. Its guaranteed precision of readings is 0.1 degree. It can measure temperatures where it was formerly impossible, namely, under the foundations of buildings, inside dams, under roadbeds, and other such places. (Leningradskaya Pravda, 14 Feb 59)

Specialists of "Energolegprom" /Electric Power Trust of the Light Industry?/ of the Leningradskiy Sovnarkhoz have produced a series of portable SM-6m salinity meters operating on the system devised by Engr V. Markovskiy. Under field conditions or in stationary installations, these meters can determine in one minute the salt content in underground waters, irrigation canals, and lakes; in the waters of heat-exchanger units; in the soil; and in food products.

A built-in oscillator imparting a sonic signal of 8,000 cycles per second to the measuring electrodes prevents polarization, which disrupts the accuracy of the instrument. Current for the instrument is supplied by a special semiconductor converter. (Moscow, Promyshlenno-Ekonomicheskaya Gazeta, 27 Feb 59)

C. Industrial Instrumentation

Workers of the Kiev Institute of Automatics of Gosplan Ukrainian SSR, under the leadership of M. I. Korobko, Candidate of Technical Sciences, and V. I. Pechuk, Candidate of Technical Sciences, are developing the instruments and systems for over-all automation which will be used at the largest installation for the continuous pouring of steel in Europe. This installation will soon go into operation at the Stalino Metallurgical Plant.

The institute has also developed a new germanium phototriode, which is used for converting light signals into electrical signals. This device can be used for controlling relays used in low-voltage equipment merely with the use of a light source one thousandth the strength of a flashlight battery. The use of this device, which was developed under the leadership of V. S. Yanovich, Senior Engineer, will simplify telemechanical systems and raise their reliability. (Kiev, Pravda Ukrainy, 24 Jan 59)

The Laboratory of Radioactive Methods of the Khar'kov KIP Control and Measuring Instrument Plant has developed transmitters for controlling the position of objects and has tested them under industrial conditions. These transmitters are a gamma relay and a contactless density meter.

The plant began series production of gamma relays in April 1959.

The gamma relay and contactless density meter are designed for use in the cement industry. (Moscow, Tsement, No 1, Jan-Feb 59, pp 13-15)

The Moscow Manometr Plant has a new constant-flow line (4) for assembling potentiometers. (Moscow, Vechernyaya Moskva, 7 Feb 59)

(4) Photo available in source, p 2, top, right

The Kutaisi "Proyektpribor" Special Design Bureau of the Georgian Sovnarkhoz has designed a type VMI-1 macaroni moisture meter. This meter consists of a measuring circuit and a cylindrical transmitter with a hydraulic pump. It determines the moisture content of macaroni ten times as fast as other methods of analysis.

The instrument looks like a compact case. In front of this case is a signal lamp, a microammeter scale, a manometer scale, and two control knobs.

At present the VMI-1 moisture meter is undergoing laboratory testing at the Tbilisi Macaroni Factory. (Tbilisi, Zarya Vostoka, 8 Feb 59)

The Frunze Physical Instrument Plant has produced an experimental model of a small electronic level indicator, which is designed to determine the amount of liquid and friable materials in closed tanks. Its novel design makes it possible to carry out measuring operations at a distance of 1,500 meters in tanks with pressures up to 80 atmospheres.

The service life of the new instrument is double and its size is one third that of existing types. It will be put into widespread use in the chemical, petroleum, food, and other industries.

N. V. Yadovega is chief engineer of the plant. (Ashkhabad, Turkmenskaya Iskra, 12 Feb 59)

The Rumb (5) is a new multichannel high-speed electronic recording instrument designed by workers of the Central Laboratory for Automatics of the Ministry of Construction RSFSR. This instrument is able to record more than 40 readings coming out of various transmitters installed on electric furnaces, open-hearth furnaces, and other installations. In addition, the instrument automatically punches the information on cards, which makes it possible to process the data rapidly and to automate the control of complex industrial processes. (Moscow, Trud, 19 Feb 59)

(5) Photo available in source, p 3, top

The Moscow Fizpribor Plant has finished producing a large consignment of KEP-12U universal electronic remote control instruments, which are designed for the automatic control of various mechanisms in power networks and industrial production. The units of this instrument are adapted for operation in tropical climes. (Moscow, Promyshlenno-Ekonomicheskaya Gazeta, 27 Feb 59)

The Moisture Meter Laboratory of the "Proyektpribor" Special Design Bureau of the Georgian Sovnarkhoz has designed the PVTK-1 electronic moisture meter (6), which is used for measuring the moisture content of tobacco leaves.

This meter has successfully undergone testing at the Tbilisi Tobacco Factory No 2, where it is in experimental operation. (Moscow, Byulleten' Tekhniko-Ekonomicheskoy Informatsii, No 3, 1959, pp 57-58)

(6) Photo available in source, p 57

D. Pipeline Instruments

In 1957, the laboratory of the Groznyy Electrical Machinery Plant designed and built experimental electronic instruments for remote control of the changes in quality of petroleum products and other hydrocarbons which occur in pipelines, by measuring their dielectric permeability. In 1958, industrial tests of these instruments were made.

A stationary instrument for controlling the quality of petroleum and other liquid hydrocarbons consists of DTP and DTK capacitance transmitters installed on the pipe flanges, and an explosionproof SES-1 capacitance comparator. An SEP-1 portable capacitance comparator can also be used.

The SEP-1 utilizes three 1A1P tubes and one 2P1P tube. Its weight, including reproducer (reproduktor) and batteries, is 6.5 kg. It measures 240 x 220 x 130 mm and its batteries ensure a service life of 180 hr.

The SES-1 comparator has been in experimental round-the-clock operation at the Groznyy-Trudovaya Pipeline since 15 November 1958. (Moscow, Byulleten' Tekhniko-Ekonomicheskoy Informatsii, No 2, 1959, pp 6-8)

VII. PRECISION MACHINERY

A. Cameras and Lenses

The 35-mm Yunost' camera with T-32 f:3.5/45-mm lens recently became available for purchase. (Moscow, Komsomol'skaya Pravda, 10 Feb 59)

The Iskra camera is produced by a plant in the Moscow Oblast Sovnarkhoz. The Estafeta camera is produced by a plant in the Belorussian Sovnarkhoz. (Moscow, Promyshlenno-Ekonomicheskaya Gazeta, 27 Feb 59)

[Comment: This is the first noted mention of any production of cameras in the Belorussian Sovnarkhoz.]

The price of the Estafeta camera with f:4/75-mm lens does not exceed 400 rubles. (Kiev, Rabochaya Gazeta, 26 Mar 59)

Some of the lenses produced by the Optical Plant (Opticheskiy zavod) of the Moscow Oblast Sovnarkhoz are inferior in quality to analogous lenses produced by the Leningrad Lenkinap Plant. (Moscow, Tekhnika Kino i Televideniya, Apr 59, p 95)

B. Motion-Picture Equipment

As early as January 1958, the Leningrad Kinap Plant had developed and was producing the KZVS-1 set of equipment for the reproduction of four-channel stereophonic magnetic phonograms and ordinary photographic phonograms in wide-screen theaters with seating capacities of 800-1,000 persons.

(Source gives full description of the KZVS-1 equipment.) (Moscow, Kinomekhanik, Apr 59, pp 32-37)

During 1958, a central design bureau developed a new f:3/16-mm motion-picture camera lens with an 82-degree field of view for taking pictures with a frame size of 16 x 22 mm. The resolving power of this lens is 67 lines per mm at the center and 30 lines per mm at the edges of the field of view.

Also during 1958, a central design bureau designed and manufactured for use in wide-screen cinematography an f:3.5/40-mm seven-element anastigmatic lens with a 70-degree field of view and a resolving power of 76 lines per mm at the center and 30 lines per mm at the edges of the field of view. This lens also takes pictures with a frame size of 16 x 22 mm.

Entirely satisfactory results have been obtained from tests of both these lenses. (Moscow, Tekhnika Kino i Televideniya, Apr 59, p 61)

During 1958, a central design bureau completed the development and manufacture of an apparatus for copying [printing] sound from magnetic tape simultaneously onto three strips of [single] 16-mm or KMP-3 2-x-16-mm film copy on a mass-production basis.

This apparatus consists of one sound-reproduction [pickup] device (7), three devices for copying the sound onto the film (8), a Rotosin electric shaft-drive system, a type 5GDD-15 speaker, and other components.

The frequency range of the sound transmission is 50-10,000 cycles per second, and the coefficient of tone deviation (detonatsiya) is no more than 0.1 percent for the sound reproduction device and no more than 0.2 percent for the copying devices.

The apparatus employs automatic control of the quality of the film copy by means of comparing it with the original during the process of copying. (Moscow, Tekhnika Kino i Televideniya, Apr 59, p 26)

(7) Photo available in source, p 26, lower left

(8) Photo available in source, p 26, lower right

The Sarmakand Kinap Plant is capable of increasing its output of 25-UZS-1 amplifier units to 400 per year by 1965. This number will fully satisfy the needs of the Ministry of Culture USSR. (Moscow, Tekhnika Kino i Televideniya, Mar 59, p 71)

The Leningrad Lenkinap Plant is the producer of the 10-P-29 and 10-P-30 developing machines. (Moscow, Tekhnika Kino i Televideniya, Mar 59, p 70)

C. Watchmaking Industry

In 1959, Moscow Timepiece Plant No 1 will produce type Signal men's watches, which can give out audio signals at preset times.

Moscow Timepiece Plant No 3 will begin the production of electric contact clocks, which will be used for the automatic switching on and off of radios, televisions, electric irons, reflectors, and other appliances at preset times.

Timepiece Plant No 3 is also getting ready to produce exposure meters for photographic laboratories. It is also building an experimental model of a universal clock, which incorporates audio signals and contact units. Mass production of such clocks is contemplated for 1960. (Moscow, Izvestiya, 10 Feb 59)

In 1959, the Penza Timepiece Plant will produce more than 4.3 million ladies' wrist watches, and will send 650,000 sets of components for assembly in Leningrad and Minsk.

The Penza plant is the producer of the Zvezda, Zarya, Kometa, and Vesna ladies' wrist watches. It is getting ready to produce the new Sura watches, which will have 16 rubies and will be square in form. (Moscow, Sovetskaya Rossiya, 8 Feb 59)

The Moscow Timepiece Plant No 2 has begun the series production of single-hand stop watches with gradations of hundredths of seconds. These split-second stop watches have much more complex and precise mechanisms than do ordinary second stop watches.

The new split-second stop watches can operate at least 10 minutes with a single winding. The first consignment has already been produced. (Moscow, Moskovskaya Pravda, 14 Feb 59)

Printer chronographs, produced by the Leningrad Electric Timepiece Plant, record time with a precision of up to 0.01 second, and with the aid of certain computations, can determine time within 0.0002 second. These instruments are of inestimable aid to astronomers in their observations of artificial satellites.

Plant designers are currently developing an instrument which will be considerably more compact and simple to operate and will occupy only a single cabinet, whereas two separate boxes are now employed.

The 400th printer chronograph was produced by this plant yesterday [23 February?]. (Leningradskaya Pravda, 24 Feb 59)

D. Test Equipment

A high-voltage mercury-rectifier testing unit has been installed at the Riga REZ Plant. Until now, electrical equipment for electric trains could be tested only at the laboratories of the All-Union Scientific Research Institute of the Ministry of Railways. Consequently, the plant had to send each set of equipment produced to Moscow for testing, a costly and time-consuming practice.

The new test unit displayed high operational qualities at a load of 2,000 amp. It can now be used for testing electrical equipment made at the plant and for solving other scientific and production problems.

The Riga REZ Plant is the first enterprise in the USSR possessing its own high-voltage testing installations. (Riga, Sovetskaya Latviya, 14 Feb 59)

The Leningrad Tool Plant has organized the production of type 1VA stationary apparatus for measuring the amplitude of vibration of bearings in all types of machines with two, four, or more bearings. Such an apparatus will permit the measurement of double amplitude vibrations up to 300 microns at frequencies of 10-100 cycles per second and up to 100 microns at frequencies of 10-150 cycles per second. The minimum measurable value of double amplitude is 10 microns. (Moscow, Promyshlenno-Ekonomicheskaya Gazeta, 20 Feb 59)

The first electronic microscales to be produced in the USSR are being made at the Leningrad Gosmetr Plant. These scales will be used widely by the chemical industry. They can measure the weight of chemical substances while reaction is taking place. The results are automatically transmitted to a galvanometer.

Such scales can safely measure radioactive and explosive substances, and can be used to study various chemical oxidation processes, to measure the density of gases, to record diffusion phenomena, and to measure the attraction of bodies by magnetic and electrical forces.

The Gosmetr Plant has begun the series production of analytic microscales for weighing precious metals. Such scales have a maximum capacity of one gram.

The Gosmetr Plant ships its weight-measuring instruments to China, Korea, Burma, India, Bulgaria, and Poland. Recently, it shipped consignments of instruments to Albania and Mongolia. (Leningradskaya Pravda, 27 Feb 59)

E. Firearms

The Tula [Armaments] Plant has mastered the production of two new automatic 5.6-mm rifles, the TOZ-21-1 and the TOZ-21-2 with scope sight. The magazines of these rifles hold ten cartridges each, and each rifle is equipped with a safety catch. (Kiev, Rabochaya Gazeta, 26 Mar 59)

VIII. ELECTRICAL PRODUCTS

A. Cable

The Bendery Moldavkabel' Plant still has very little equipment and it cannot get many semifinished goods, yet it produces a variety of products. Among these is a multistrand aluminum wire which is accurately wound on huge wooden spools. On 19 February, the plant produced 90 km of aluminum wire, instead of the 54 km established by the norm. During 17 days of February, 126 km of aluminum wire with rubber insulation were produced, instead of only 62 km. Today [26 February?], as yesterday, the plant is producing twice as many of these products as called for in the plan assignment.

Today the plant completed testing a so-called extrusion press for applying plastic insulation to wire. It has been calculated that the machine can insulate up to 200 km of double-strand aluminum wire in one month. The Moldavkabel Plant is expected to be producing these machines by the end of the year. During the course of the Seven-Year Plan, the plant will produce several more extrusion presses with even greater capacity.

A. Serov is director of the plant and G. Paverman is chief engineer.

During the Seven-Year Plan, the plant's output will increase to seven times its current level. (Kishinev, Sovetskaya Moldaviya, 26 Feb 59)

The Leningrad Sevkabel' Plant is currently completing the manufacture of the first kilometer of high-voltage cable to be used in the construction of the Stalingradskaya GES (Hydroelectric Power Station).

Dozens of kilometers of power cable have already been manufactured this year for India and Vietnam, and an order is being filled during the current quarter for the United Arab Republic.

The plant is developing experimental models of cable with plastic insulation to replace costly lead. (Leningradskaya Pravda, 26 Feb 59)

B. Fixtures

The Leningrad Elektroarmatura Plant and the Leningrad Household Appliance Plant, both producers of light fixtures, are subordinate to the Main Administration of Local Industry of the Leningrad City Executive Committee.

The Moscow Electric Light Fixtures Plant No 1 is subordinate to the Administration of Metalworking Industry of the Moscow City Executive Committee. (Moscow, Byulleten' Roznichnykh Tsen, No 11, Apr 59, pp 31-32)

The Moscow Electric Porcelain Plant, which is subordinate to the Administration of Metalworking Industry of the Moscow City Executive Committee, is the producer of the MG-92-771 plastic-and-porcelain switch, which sells for 4.10 rubles.

The Cheremushki Electrical Fixtures Plant is subordinate to the "Mosoblmetallprom" Trust of the Moscow Oblast Council Executive Committee. (Moscow, Byulleten' Roznichnykh Tsen, No 9, Mar 59, p 33)

The Kazan' Electrical Machinery Plant (Kazanskiy elektromekhanicheskiy zavod) produces household light fixtures. (Moscow, Izobretatel' i Ratsionalizator, Apr 59, p 44)

[Comment: This appears to be a new plant.]

Universal-type light fixtures, for general lighting purposes, are produced by the Lugansk Electrical Installation Products Plant (Luganskiy zavod elektromontazhnykh izdeliy), a plant [unidentified] of the Tul'skiy Sovnarkhoz, the Gomel Household Appliance Plant (Zavod metallobytovykh izdeliy), the Khabarovsk Metallist Plant, and the Novosel'tsevskiy Electrical Fixtures Plant (Novosel'tsevskiy elektroarmaturnyy zavod) which is located near the Lobnya Station of Moskovskaya Oblast. (Moscow, Svetotekhnika, Apr 59, p 32)

C. Switching Apparatus

The Ul'yanovsk Kontaktor Plant manufactures low-voltage apparatus for electric power stations, blast and open-hearth furnaces, and mines. Reconstruction of this plant has recently been undertaken. Older buildings are being expanded and new ones are being constructed. Automatic lines and special equipment are being designed for the new plant, which will have Europe's largest laboratory for testing the breaking capacity of all types of equipment. This plant will become the scientific center for the development of low-voltage equipment.

A. I. Yengovatov is director of the Ul'yanovsk Kontaktor Plant. (Moscow, Sovetskaya Rossiya, 26 Feb 59)

The [Ul'yanovsk] Kontaktor Plant is the producer of the PMT-0 reversible-type magnetic starter. (Moscow, Knizhnaya Letopis', No 14, 1959, p 45)

The Cheboksary Electrical Equipment Plant is one of the leading enterprises of the Chuvashskiy Sovnarkhoz. (Moscow, Komsomol'skaya Pravda, 17 Feb 59)

The Khar'kov Elektrostanok Plant is the producer of the series PV switches, in sizes I, III, and V.

The Moscow Low-Voltage Equipment Plant is the producer of the RSI-1 and RSI-2 pulse-counting relays. (Moscow, Knizhnaya Letopis', No 18, 1959, pp 39-40)

D. Other Equipment

The Ust'-Kamenogorsk Capacitor Plant is the first electrical engineering enterprise in East Kazakhstan. According to D. S. Varshavskiy, chief engineer of the plant, it has begun the production of low-voltage cosine capacitors for increasing the efficiency of electrical installation. It will begin the production of capacitors of double the power of the cosine capacitors, and will also produce high-voltage capacitors.

The plant will supply capacitors of up to 600,000 volts in power for long-distance transmission lines, and will also make capacitors for high-frequency telephone communications over high-voltage lines.

The plant is now getting ready to produce capacitors for obtaining power from high-voltage transmission lines for use in rural areas. (Riga, Sovetskaya Latviya, 18 Feb 59)

Quite often, the Saratov Electrothermic Equipment Plant ships out enormous 17-section electric furnaces, which have electric heating devices measuring 44 meters in length. These furnaces are designed for heat-treating welding electrodes, and have a productivity of 2 tons/hr.

Charges are loaded automatically in new steel-making furnaces made by the plant. Recently the plant began the production of vertical drawing furnaces, which will be used in the cable industry for enameling heavy-gauge copper conductors.

The products of the Saratov plant are in great demand abroad. (Moscow, Izvestiya, 27 Feb 59)

The Leningrad High-Frequency Installations Plant has produced its first series of machines for the ultrasonic processing of materials, including the washing and degreasing of parts and improvement of electroplating processes. It is possible with such an ultrasonic machine (9) to process hard and brittle materials such as porcelain, glass, and various ceramic parts. (Kiev, Rabochaya Gazeta, 22 Mar 59)

(9) Photo available in source, p 1, bottom, right center

Putyushkin is director of the Moscow Electrical Medical Equipment Plant. (Moscow, Moskovskaya Pravda, 21 Feb 59)

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